

Learning the language of the Microprocessor

TEKTRONIX

Apr 77

8080 & 8088 development systems

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; PROGRAM FILE NAME--- CALC ---
;
; THIS PROGRAM WILL ADD OR SUB OCTAL NUMBERS ENTERED
; FROM THE KEYBOARD OF THE E&L MMD-1
; THE "A" KEY WILL ADD, THE "B" KEY WILL SUBTRACT
; NEGATIVE NUMBERS ARE DISPLAYED IN 2'S COMPLE
;

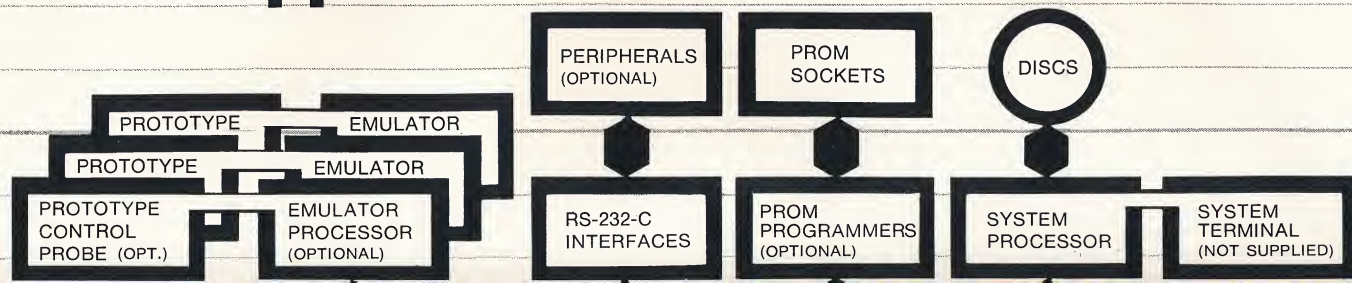
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```

                ORG      0300H
                LXI      SP,0400H
RESET: XRA      A          ;CLEAR ACC
                MOV      C,A
                MOV      D,A
                MOV      E,A
                OUT      0
                OUT      1
PTA:  MOV      A,C
                OUT      2
PTB:  CALL     KBRD        ;KBRD I/P ROUTINE
                CPI      08H      ;JUMP IF LESS THAN 8
                JNC      PTC      ;COMMAND DECODE

```

**calls for a powerful
interactive design system
with multiple microprocessor
support**

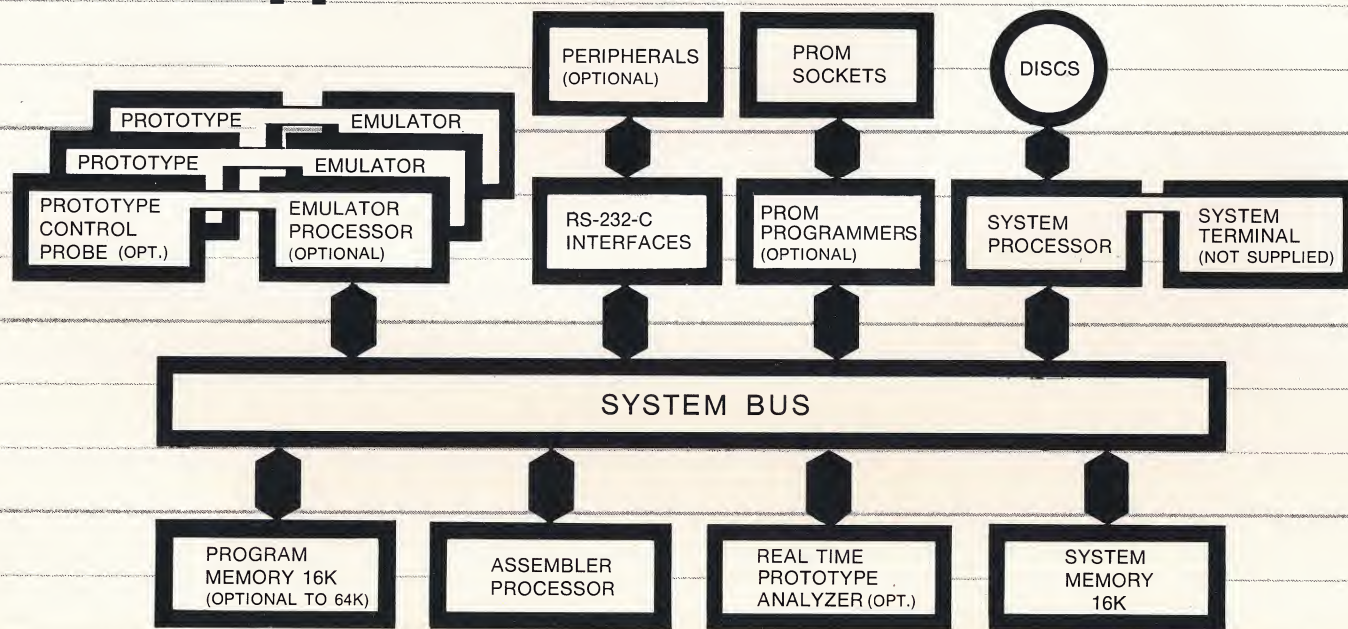



```

OUT      2      ;KBRD I/P ROUTINE
PTB:    CALL    KBRD
        CPI     08H    ;JUMP IF LESS THAN 8
        JNC     PTC    ;COMMAND DECODE

```

calls for a powerful interactive design system with multiple microprocessor support



... One which facilitates both program creation and prototype development, speeds up the debugging cycle, and hastens the ultimate integration of software and hardware.

Tektronix introduces the 8002 Microprocessor Lab in answer to this need. Thanks to its innovative multiple processor architecture, the 8002 supports several types of microprocessors: support is currently available for the 8080 and 6800, Z-80 support will be available by late summer, and more will follow. The 8002 provides an interactive software development system offering several features to ease program creation: a line-oriented text editor, a relocatable macro assembler with optimized assembly speed, dynamic trace capability, and assembler software for two microprocessors chosen from those available at the time of purchase. (Assembler software for additional microprocessors is provided optionally.)

designer's prototype. If the software is ultimately to be executed on an 8080 in the prototype, for example, an 8080 chip is used in the emulator processor.

The 8002 Interactive Prototype Emulation and Debugging System adds a Prototype Control Probe for a selected microprocessor. This allows the user to run, test, change, trace, and debug the developmental software and hardware by inserting the probe into the prototype.

The 8002 Real-Time Prototype Analyzer System adds real-time trace and an 8-channel Analyzer Probe. At this level the user can monitor bus transactions as well as events external to the prototype.

With its options, the 8002 provides powerful capabilities for debugging software and hardware. The time ordinarily spent in integrating the two is thus shortened

PROGRAM
MEMORY 16K
(OPTIONAL TO 64K)

ASSEMBLER
PROCESSOR

REAL TIME
PROTOTYPE
ANALYZER (OPT.)

SYSTEM
MEMORY
16K

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Since microprocessor-based program creation and prototype design typically go hand in hand, the 8002 also offers three progressive option levels for program emulation and debugging, prototype emulation and debugging, and real-time prototype analysis.

The 8002 Program Emulation and Debugging System, which adds an emulator processor and software for a selected microprocessor, enables the operator to run, test, change, trace, and debug developmental software on the desired microprocessor. The emulator processor is identical to the processor in the

designer's prototype. If the software is ultimately to be executed on an 8080 in the prototype, for example, an 8080 chip is used in the emulator processor.

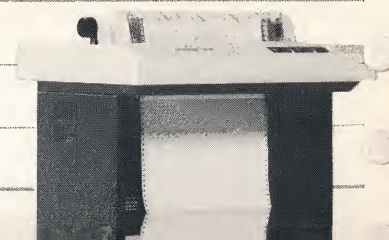
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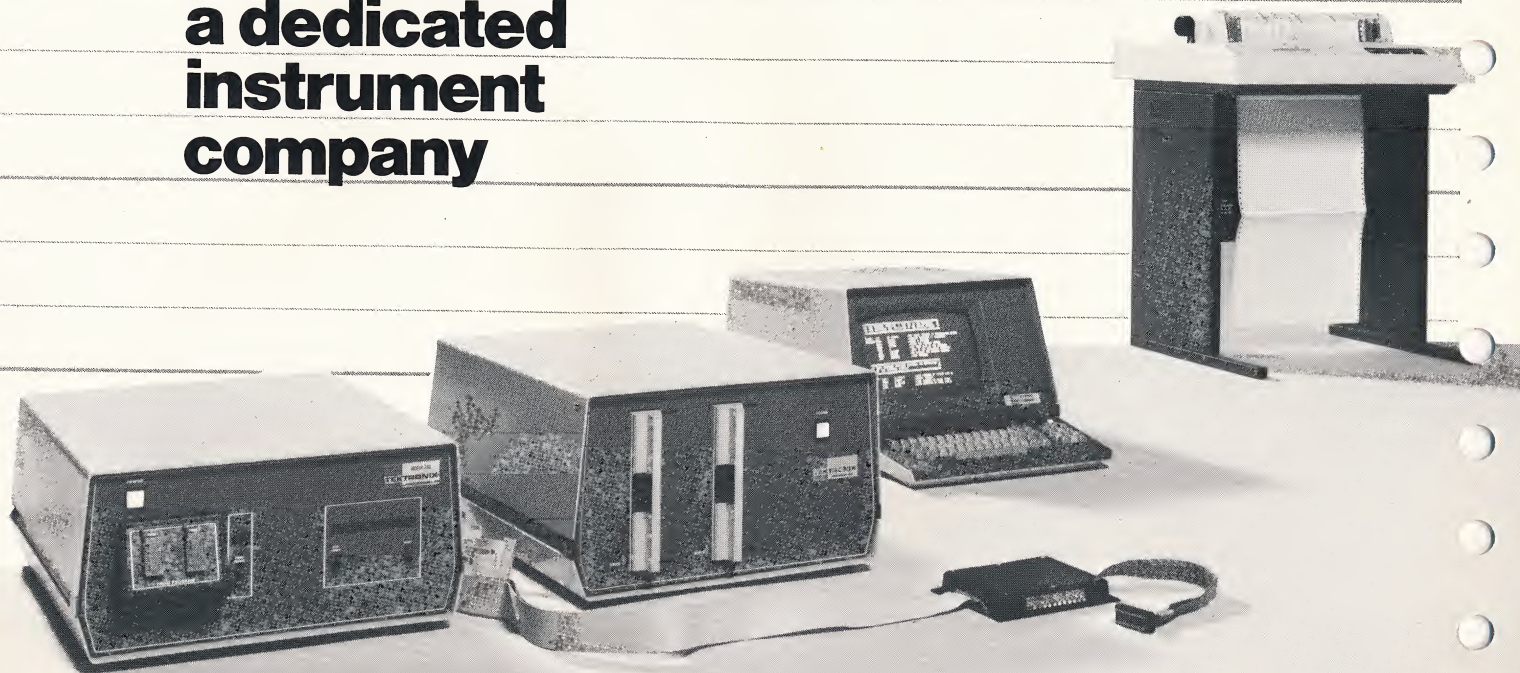
With its options, the 8002 provides powerful capabilities for debugging software and hardware. The time ordinarily spent in integrating the two is thus shortened significantly.

The 8002 and its options have three main advantages. First, as a captive design aid, the system presents a *powerful alternative* to microprocessor product development on a time-sharing computer or minicomputer. Second, the interactive in-prototype testing technique *facilitates hardware/software integration*. Finally, with its multiple-processor architecture, the system offers *unprecedented design flexibility* for the design engineer, and enables him to buy—and learn—a single design tool for multiple microprocessors.

**from
a dedicated
instrument
company**



from a dedicated instrument company



Tektronix has always been responsive to the instrumentation needs of the design engineer . . . whether for oscilloscopes, digital oscilloscopes, or logic analyzers. The 8002 Microprocessor Lab is no exception. Its many convenience features for software development, its ability to deal with a number of different microprocessors, and its capability for software/hardware debugging, make it a unique design tool.

As a leading electronics instrument company, Tektronix can offer you a full line of options and peripherals . . . from the three 8002 option levels . . . to PROM programming facilities for the 1702 or the 2704/2708 MOS PROMs . . . to a line printer and a choice of system terminals.

And as an experienced company, Tektronix can offer you a rare commodity in the field of microprocessor development tools: local Field Engineers and local service. A nationwide and worldwide network of Field Offices

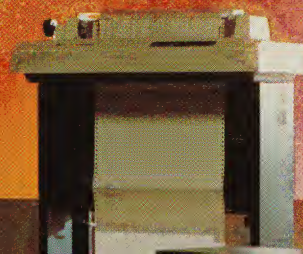
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Due to the introduction date of this product, we were unable to provide your pre-registration form in time for you to register by mail. However, we've enclosed one for your convenience, and we hope that it will help you avoid some of the delay at the door.

Tektronix[®]
COMMITTED TO EXCELLENCE



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**See the
8002
Microprocessor
Lab at
ELECTRO 77**

(Tektronix booths, Instrumentation
Section, first floor)

